

**Notice of Allowability**

Application No.

09/641,666

Examiner

Beth Van Doren

Applicant(s)

WINNARD ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the after-final amendment received 10/28/04.
2. ☒ The allowed claim(s) is/are 1,7-13,31,32 and 35-42.
3. ☒ The drawings filed on 18 August 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 20041104.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

TARIQ R. HAFIZ

SUPERVISORY PATENT EXAMINER

**Detailed Action**

1. The following Examiner's amendment and statement of reasons for allowance is in response to communications received on 10/28/04. Claims 1 and 31 have been amended. Claims 2, 4-6, 33, and 43-45 have been canceled. Claims 1, 7-13, 31-32, and 35-42 are now pending in this application and are allowed.

***Examiner's Amendment***

2. An examiner's amendment to the record appears below. Should the changes be unacceptable to the applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. John Le Roy on November 4, 2004. The application has been amended as follows:

**In the claims:**

1. A method of operating a computer to perform an engineering change decision analysis of an engineering design change in a product, comprising:

displaying a list of change drivers that is are driving the engineering design change and receiving a selection of a change driver from a user;

displaying a first set of questions soliciting general cost information associated with the engineering design change, the first set of questions including (i) a highest, best, and lowest warranty variance estimate and probability for warranting the product manufactured with the engineering design change, and (ii) a highest, best, and lowest warranty variance estimate and probability associated with the product manufactured without product verification testing;

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receiving answers to the first set of questions;

displaying a second set of questions soliciting change driver-specific information associated with the selected change driver, and receiving answers thereto;

computing with a computer a cost associated with the engineering design change using the answers to the first set of questions wherein computing the cost includes (i) computing a cost variance associated with warranty of the product manufactured with the engineering design change with and without product verification testing, (ii) computing a cost variance associated with producing the product manufactured with the engineering design change, the production cost variance including tooling and assembly costs, and (iii) summing the warranty cost variance with the production cost;

computing a value associated with not implementing the engineering design change using the change driver-specific answers; and

comparing the computed costs and value and generating a recommendation of whether the engineering design change should be implemented in response to the comparison.

***Reasons for Allowance***

8. Claims 1, 7-13, 31-32, and 35-42 are allowed.

9. The following is an examiner's statement of reasons for allowance: None of the prior art of record, taken individually or in any combination, teach, inter alia, displaying questions including (i) a highest, best, and lowest warranty variance estimate and probability for warranting the product manufactured with the engineering design change, and (ii) a highest, best, and lowest warranty variance estimate and probability associated with the product manufactured without product verification testing, and computing a cost associated with the engineering design

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change using the answers to these questions by (i) computing a cost variance associated with warranty of the product manufactured with the engineering design change with and without product verification testing, (ii) computing a cost variance associated with producing the product manufactured with the engineering design change, the production cost variance including tooling and assembly costs, and (iii) summing the warranty cost variance with the production cost.

The prior art references most closely resembling the Applicant's claimed invention are Tegethoff (U.S. 5,539,652), DPL 4.0 ([www.adainc.com](http://www.adainc.com)), "ROI Analysis" ([Medicalogic.com](http://Medicalogic.com)).

First, Tegethoff discloses a simulation tool integrated with computer aided design tools that allows for continuous engineering of a product from design through manufacturing and sale. The tool estimates cost and quality of a design by applying models to information regarding yield, cost, testability, etc. and permits a designer to estimate the impact of a design decision on manufacturability at various stages of development. Tegethoff discloses that a user inputs a description of the initial design and test and quality criteria information relating to each component of the assembly. As design changes occur during the stages of product development, the components of the designed assembly are tested against these criteria and weaknesses, such as poor quality and test/repair costs, are exposed. Through this process, the user is allowed to select the appropriate trade-offs in the design. The tool considers factors such as failures that may occur once the designed product leaves the manufacturing environment and enters the warranty period in the customer environment.

Second, DPL 4.0 discloses a tool that guides the user in choosing to implement the engineering design change or not. DPL 4.0 discloses a tool that receives data about a manufacturing situation, runs simulations on the data, and communicates results that guide the

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user in choosing to implement the engineering design change or not. DPL 4.0 discloses displaying a set of questions soliciting general cost information and receiving answers to these questions from the user, including a highest and a lowest cost variance estimate for producing/manufacturing the product with the engineering design change, the variance of incremental pieces, and also teaches branch nodes and probabilities. More than two branches can be used in more complex situations.

Third, "ROI Analysis" discusses a list of change drivers being displayed and the user selecting the ones that are factors in the change decision. A set of inquiries are displayed that each require a reply and the user fills in the information concerning implementing a different system into the business. The user enters answers to the inquiries concerning change driver-specific questions and the answers are used to compute a score for cost and a value associated with not implementing the desired change. The cost score and value are compared and a chart is generated that recommends, based on the comparison, whether or not to implement the change.

However, none of Tegethoff, DPL 4.0, or "ROI Analysis" disclose (i) a highest, best, and lowest warranty variance estimate and probability for warranting the product manufactured with the engineering design change, and (ii) a highest, best, and lowest warranty variance estimate and probability associated with the product manufactured without product verification testing, or (i) computing a cost variance associated with warranty of the product manufactured with the engineering design change with and without product verification testing, (ii) computing a cost variance associated with producing the product manufactured with the engineering design change, the production cost variance including tooling and assembly costs, and (iii) summing the warranty cost variance with the production cost.

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Any comments considered necessary by the Applicant must be submitted by no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statements for Reasons for Allowance".

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Eder (U.S. 6,393,406) discloses valuing and measuring value drivers in a business.

Morgan et al. (U.S. 5,799,286) teaches an activity based management system that determines cost associated with specific actions.

Morman et al. (U.S. 6,081,654) discloses performing engineering design using design and performance criteria to determine if the generated design models meet required needs.

McGill (U.S. 6,499,597) discloses assembling automobile parts and considering the economic value, usage, and return of the decision to the customer and manufacturer.

Nakada et al. (JP 2000259703) teaches decision data on engineering changes.

Orr et al. (0 473 522 A2) discloses a system for controlling and monitoring engineering and manufacturing changes in a manufacturing enterprise.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beth Van Doren whose telephone number is (703) 305-3882.

The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

*ewd*

bvd

November 4, 2004

  
TARIQ R. HAFIZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600